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RATIONALITY AT THE BRINK: THE ROLE OF COGNITIVE PROCESSES IN FA--ETC(U)
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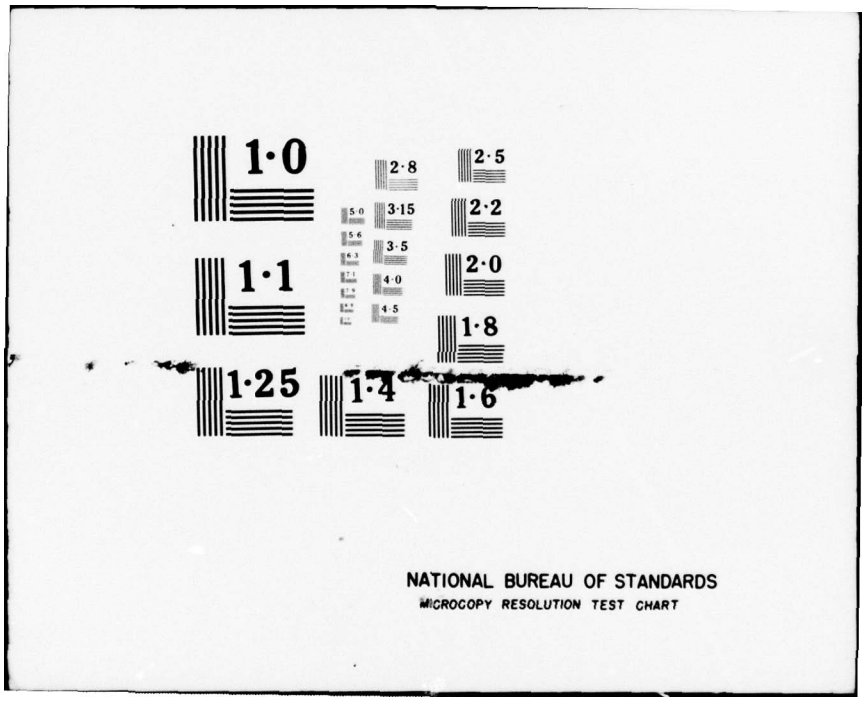
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RATIONALITY AT THE BRINK:

The Role of Cognitive Processes in Failures of Deterrence

10 Jack L. Snyder

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I. INTRODUCTION: RATIONALITY IN A TWO-VALUE GAME*

According to the scenarios imagined by most strategists, nuclear confrontation is a game involving a trade-off between two values. First, there is the value associated with the immediate issue of contention: e.g., in the Cuban missile crisis, maintaining U.S. prestige in the world arena; in the Berlin crisis, maintaining the credibility of U.S. commitments. Second, there is the value of minimizing the possibility that an unwanted general war could result from this superpower confrontation.

A trade-off relationship exists between these two values. That is, assuming a strong commitment on the part of both adversaries, any policy which tries to attain the value associated with the immediate point of contention will tend to increase the likelihood of general war. Conversely, any policy which seeks to maximize the avoidance of war will jeopardize the protection of the other value.

Trying to understand the dynamics of this two-value game has been a chief preoccupation of strategists since the advent of nuclear weaponry. It is important, first of all, to understand how this game should be played, so that the decisionmaker will be able to recognize the strategies which give him the best chance of optimizing his interests and preparing an appropriate force posture, military doctrine, and diplomatic strategy. At the same time, it is also important to understand how the game will in fact be played by flesh-and-blood decisionmakers. This understanding is crucial for two reasons: (1) Since each player's optimal strategy depends on the strategy adopted by his opponent, such an understanding may help the player to estimate his opponent's probable responses and to adjust his own strategy accordingly. (2) If the nonoptimizing strategies adopted by human decisionmakers tend to occur in regular pattens, then a knowledge of these patterns may help the player to monitor his own strategies.

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*The author is a Ph.D. candidate at Columbia University, where an earlier draft of this Paper was prepared for Professor Warner Schilling's Colloquium on Military Technology and International Relations.

Most discussions of the dynamics of nuclear confrontations have tended to telescope these two questions -- "which strategy should logically be adopted?" and "which strategy will in fact be adopted?" -- into a single issue. Either implicitly or explicitly, it is assumed that players will tend to employ strategies which, in a rough way, optimize their values. Take, for example, Thomas Schelling's method for overcoming the shortage of empirical evidence regarding the behavior of decisionmakers in a nuclear confrontation:

> You can sit in your armchair and try to predict how people will behave by asking how you would behave if you had your wits about you. You get, free of charge, a lot of vicarious, empirical behavior.[2]

According to Schelling, the very foundation of strategic theory is "the assumption of rational behavior -- not just of intelligent behavior, but of behavior motivated by a conscious calculation of advantages."[3] The theory of deterrence, which receives its most difficult test in that type of superpower confrontation which is under discussion here, rests on such premises. One of its key assumptions is that the deterree will make an estimate of probable costs and probable gains and, on that basis, be deterred from pursuing a policy which is likely to lead to nuclear war, since no possible gains could outweigh the costs of a nuclear exchange. The theory of deterrence explicitly assumes that the decisionmaker will (1) recognize the trade-off between the two values and (2) employ a strategy which effects the optimal trade-off between those values, as determined by the decisionmaker's indifference curve.

Similarly, the strategy of "compellence," as outlined by Schelling in *Arms and Influence*,[4] assumes that the compellee will recognize trade-offs and make the appropriate cost-benefit calculations. That is, once the compeller has "rigged the incentives so that the other party must choose in [the compeller's] favor," it is assumed that the compellee will weigh those incentives correctly and recognize his obligation to capitulate.[5]

Strategic research has concerned itself primarily with the internal logic of deterrence theory and with its logical ramifications. To be sure, many strategists include caveats regarding the fragility of rationality in crisis situations. For example, Bernard Brodie cautions his readers, lest the seemingly powerful logic of deterrence make them sanguine about the likelihood of nuclear attack. Brodie points out that it may not be realistic to assume a dispassionate calculation of costs and benefits under conditions of great uncertainty, especially when an attack is perceived as imminent.[6] Still the implications of such insights have remained largely unpursued.

There does exist, however, a considerable body of research into nonrational influences on the decision process which might be profitably applied to the problem of deterrence in time of crisis. Most of this research approaches the problem in terms of constraints on an essentially rational decision process -- constraints which, nevertheless, may be so great as to completely undermine the rationality of that process. Such constraints may include:

(1) organizational dynamics, e.g., the bureaucratic processes and organizational politics outlined in Graham Allison's *Essence of Decision.*[7]

(2) idiosyncratic psychopathologies which may prevent value optimization, as illustrated in Alexander and Juliette George's *Woodrow Wilson and Colonel House.*[8]

(3) nonidiosyncratic cognitive processes which evaluate information and options according to nonrational principles. Phenomena included in this area would be, for example, (a) the tendency to establish, on the basis of inadequate information, a stereotyped image of the adversary and then to tenaciously maintain that image by means of unconscious, selective information processing,[9] or (b) the alleged tendency of decisionmakers to advocate riskier policies when responsibility for the decision is shared in a group than when the individual is solely responsible.[10]

A more ambitious approach to nonrationality in decisionmaking can be found in John Steinbruner's *The Cybernetic Theory of Decision.*[11] Steinbruner describes not mere constraints on rational decisionmaking

but an entirely independent, nonrational process by which decisions are made. The operation of this process is based on (1) the model of a computer's feedback loops, supplemented with (2) the general principles which govern the operation of nonidiosyncratic cognitive processes -- principles which have been established by experimental psychology.

Steinbruner's model posits decision rules which reject the rational-analytic method. In his model, values which are in a trade-off relationship are not integrated, but pursued separately. Indifference curves are not constructed, even implicitly; probable outcomes are not estimated; no attempt is made to optimize values. Under conditions of uncertainty, decisions are structured not by rational-analytic procedures, but by nonrational rules of cognitive operations. For example, under uncertainty, the decisionmaker will tend to conceptualize his decision environment so as to avoid recognizing trade-off relationships between his values. Tradeoffs violate the principle of cognitive consistency. Hence, when the environment is sufficiently unstructured as to permit some interpretive latitude, the decisionmaker will suppress tradeoffs by conceptualizing his world in such a way that the values do not appear to conflict.

Furthermore, Leon Festinger in his *A Theory of Cognitive Dissonance* points out that decisionmakers can solve their cognitive dilemma by conceiving their decision as being wholly determined by the course of external events.

> It is possible . . . to reduce or even eliminate the dissonance by revoking the decision psychologically. This would consist of . . . insisting that really no choice had been made for which the person had any responsibility.[12]

In sum, Steinbruner's model holds that there are strong cognitive forces in operation in conditions of uncertainty which predispose decisionmakers to deny the existence of trade-offs, to deny choice, and to impute unwarranted certainty to this view of their situation.

If Steinbruner's model is an accurate description of decisionmaking under uncertainty, it places the stability of deterrence in a new and disconcerting light. Whereas deterrence theory requires at least an implicit recognition of trade-offs, Steinbruner's model suggests that human decisionmakers are under cognitive pressure to conceptualize their decision environment in such a way as to deny the existence of trade-offs.[13]

Similarly, compellence strategies -- generally viewed as rather reckless even by conventional analysts -- appear even more problematical in this light. Adopting a compellence strategy permits the compeller to foreswear choice and avoid his trade-off, so decisionmakers under uncertainty -- as in a nuclear confrontation -- should be predisposed to adopt this type of tactic. Furthermore, a "cybernetic decisionmaker" who is in the position of the compellee may not accurately perceive his incentive to capitulate -- especially if he too is locked into a no-choice compellence strategy.

Despite this gloomy picture, even within Steinbruner's scheme there exists a possible mitigating factor: the so-called "reality principle." Only when uncertainty is great -- in unstructured situations -- do non-rational cognitive principles have full rein. When a decision environment is highly structured -- i.e., when uncertainty is low and the trade-off is unavoidably self-evident -- the reality principle may not permit the decisionmaker to avoid the realistic calculations and tough choices required by the rational-analytic decision process. Hence, the relevant question becomes: is the spectre of nuclear destruction a sufficiently palpable constraint so that (1) it imposes an undeniable structure on the decision environment and (2) forces the decisionmaker to recognize the trade-offs inherent in his situation, despite the cognitive costs this entails?

In order to answer this question and, more generally, in order to test the plausibility of Steinbruner's cybernetic decision model, it will be helpful to examine two case studies whose stakes and structure resemble those of the hypothetical nuclear confrontations imagined by strategic analysts -- American decisionmaking during the Cuban missile crisis and German decisionmaking between the assassination of the Austrian

Archduke and the invasion of Belgium. The "objective" structure of these two cases -- as opposed to their perceived structure -- involved a trade-off between two values, one the avoidance of an unwanted war of monumental proportions and the other the securing of a web of interests related to the maintenance of political prestige and military power.

With regard to these case studies, it will be asked: (1) how did they deal with their value trade-off problem? (2) how did they perceive their options? (3) what are the ramifications of the behavior of the decisionmakers in these crises for our ideas about deterrence?

Before proceeding with a fuller explanation of the relevant aspects of Steinbruner's theory and with the analysis of the case studies, some of the assumptions and limitations of this analysis should be made explicit.

(1) The psychological principles on which Steinbruner's theory is based will be accepted as representing a rough consensus based on the discipline's experimental work. In any event, the test for these principles will be in the plausibility of the explanations they suggest for the case studies.[14]

(2) This analysis offers no rigorous technique for conclusively demonstrating that a particular set of policy options was structured by nonrational cognitive pressures rather than by an analytic approach. If a player decides that circumstances leave him only one option, how can the objectivity of that view be disproved? Certainly, there may be situations in which even a rational decisionmaker is left with the single option of initiating an unwanted war -- or at least risking its immediate provocation. Psychologist Jack Brehm points out that, even in experimental conditions, it may be impossible to determine whether an effect is caused by cognitive dissonance or whether it is simply a case in which rational decision rules produce the same results as nonrational cognitive rules.[15]

It will not be the goal of this analysis to prove conclusively that a model based on constrained rationality cannot explain the Kennedys' and the Kaiser's conceptualizations of their problems. However, circumstantial evidence will be used to cast doubt on such an explanation. Of course, it will not be as easy to do this with respect to the Cuban crisis

as with World War I: (1) because of the clearly anomalous outcome in the latter case and (2) because at least some aspects of the ExCom's decision process were purposefully structured to reflect some of the requirements of the rational model.

In any case, the goal of this analysis is not to design a classical experiment, pitting the cybernetic model against the rational-analytic one, but rather to test the rough plausibility of Steinbruner's approach and to determine whether it might suggest insights having interesting ramifications for strategic theory.

(3) It is dangerous to generalize on the basis of two case studies -- or, more accurately, on the basis of *only one* side of each case. It is doubly dangerous when one of the other unexplored sides -- the Soviet decision process -- offers a possible disconfirmation of the main hypothesis. That is, despite uncertainty, the Soviets did not lock themselves into a no-choice policy. Still, in the absence of hard information regarding the Soviet decision process, one can only speculate about the respective roles of analytical and cognitive factors in shaping the Politburo's conception of the crisis and its choice of options. That speculation will be reserved for the conclusion.

II. THE ANALYTIC VS. THE CYBERNETIC/COGNITIVE DECISION MODEL

In a two-value game, such as a nuclear confrontation is likely to represent, the rational-analytic approach to decisionmaking is characterized by (1) the "integration" of the conflicting values by means of an explicit or implicit indifference curve, (2) cost-benefit calculations, (3) the estimation of the expected outcomes of alternative policies in order to determine the best means of achieving an optimal trade-off of values, etc. Uncertainty is treated as a statistical problem. The decisionmaker is sensitive to all relevant information.[16]

In his cybernetic theory of decision, John Steinbruner has attempted to formulate a decision paradigm which is equal in scope to the analytic paradigm but entirely different in its operating principles. It is organized around two concepts: "short-cycle information feedback" and the elimination of uncertainty.[17]

THE CYBERNETIC MODEL

Steinbruner takes as his model simple, cybernetic decision mechanisms -- such as the thermostat -- which effectively solve problems without the complex calculations required by the analytical model. Since the cybernetic mechanism makes no calculations, it is unaffected by uncertainties which may stem from a lack of relevant information, and which would stymie an analytic decisionmaker.

Despite its simplicity, such a mechanism can produce highly adaptive behavior:

> Roughly speaking, the mechanism of decision advanced by the cybernetic paradigm is one which works on the principle of the recipe. The decisionmaker has a repertory of operations which he performs in sequence while monitoring a few feedback variables. . . . The cook, in this model, does not construct the relative preference for sweetness or tartness for an average range of customers in baking pies. Rather, he follows established recipes and watches attendance at the restaurant and the rate at which his pies disappear.[18]

This is essentially a satisfying method rather than an optimizing one. Sequential attention is given to alternatives until an adequate one is found.[19]

"VALUE DISAGGREGATION"

A cybernetic mechanism cannot deal with the problem of conflicting values. It must disaggregate them and attend to them sequentially. Or it must assign them to separate parts of the decision mechanism, such as different agencies within the government. Of course, this disaggregation of conflicting values is likely to result in a decrease in the efficiency of the mechanism, as some of its policies work at cross-purposes to other policies. Steinbruner cites this example:

> . . . separate entities of the government construct river projects to control floods, on one hand, and to provide disaster relief to pay for flood damage on the other. Though the separate programs jointly affect private investment in flood plain areas, they are operated separately and decisions about them are made separately. Jointly over the years, they have produced uneconomic investment in flood-plain areas so that the more flood control projects that have been constructed, the greater the national flood losses have become. Since the decision process treated the programs as separate issues, no one noticed the inherent problems until the investment had been made and the paradoxical flood losses began to occur.[20]

Some values in highly interactive trade-off relationships are not so easily disaggregated.[21] The human mind, of course, can and will deal with such trade-offs analytically, if compelled to do so by a highly structured decision environment. However, trade-offs violate the experimentally-established principle of cognitive consistency. Therefore, if the decision environment is sufficiently unstructured and entails sufficient uncertainty so that there is leeway for interpretation, the decisionmaker will tend to conceptualize the problem in such a way that the trade-off can be denied. In other words, if the point of view that there is no trade-off relationship can be taken (i.e., if it is not precluded

by the "reality principle"), then it will be taken. Thus, the problem is cast in a form which the cybernetic decisionmaker can deal with.[22]

Once such a conceptualization of a problem is established, cognitive principles work to impute certainty to the correctness of that view. This is achieved by (1) selective processing of incoming information which depreciates the value of disconfirming evidence and (2) "categorical inferences" of certainty or impossibility.[23] With regard to the latter point, Steinbruner discusses John Kennedy's inference that he would be impeached if the missiles were not removed from Cuba:

> That Kennedy might have taken his impeachment quite seriously as the outcome of his following a conciliatory course in the crisis is [harder] to imagine within the analytic paradigm. It would appear as a rare limiting case (all other outcomes each assigned a probability of zero).
>
> By contrast, cognitive theory readily accounts for the existence of firm, categorical, nonprobabilistic beliefs in the presence of intense uncertainty. The cognitive processing mechanisms of the mind provide a number of ways in which beliefs become established, independent of the weight of objective evidence. . . . To the cognitive theorist it becomes quite readily conceivable that Kennedy meant exactly what he said about his impeachment -- as he said it. As a general matter, cognitive theory makes the assumption that structure will be imposed on uncertain situations, and uncertainty thereby resolved, not by probabilistic judgments but by categorical inferences.[24]

COGNITIVE DYNAMICS AND DECISIONMAKING IN TWO CASE STUDIES

Both of the case studies which follow will stress the role of the cognitive principle of inconsistency management in structuring the decisionmakers' conception of their environment under conditions of uncertainty. Specifically it will point out:

(1) the tendency towards unwarranted assumptions of certainty regarding opponents' intentions and the correctness of one's chosen policy.

(2) the tendency to see the two principal values at stake in the crisis not as conflicting but as consonant.

(3) the tendency to adopt a strategy of compellence, which entails no trade-offs for the compeller, rather than a strategy of negotiation,

which necessitates "value integration" (i.e., the recognition of a trade-off between conflicting values).

III. THE CUBAN MISSILE CRISIS: A FOURTH CUT

Graham Allison has pointed out that the nature of the decision environment in the Cuban missile crisis makes it particularly well suited for "Model I" (rational actor) analysis: "In the context of ultimate danger to the nation, a small group of men, unhitched from the bureaucracy, weighed the options and decided."[25] The decisionmakers were highly conscious of the need to approach their dilemma in a rational-analytic manner. Furthermore, their chosen course of action was highly successful in achieving their goals. Hence, in such a case, Allison argues, alternative models "are forced to compete on Model I's home ground. The dimensions and factors uncovered by Model II [bureaucratic processes] and Model III [bureaucratic politics] in this case will therefore be particularly suggestive."[26] This is also true for an explanation based on nonrational cognitive decision processes.

Unlike Allison's analysis, however, this analysis will focus not on nonrational constraints on the decision, but rather on the overall shaping of the decisionmakers' attitudes toward their options and the process by which those options were weighed.

AVOIDING THE TRADE-OFF

Broadly, it will be shown that Kennedy and most of his advisors conceptualized the decision in a way which avoided placing their two relevant values (war avoidance and the maintenance of prestige in the international arena) in conflict. This was achieved by conceiving the problem in terms of "risking war now" versus "running an even greater risk of war later." If Kennedy did not act to save his international prestige now, the loss of that prestige would contribute to an increased chance of war later. Kennedy attributed virtual certainty to the view that the Russians would be encouraged to push for greater and greater concessions in Berlin and elsewhere, unless the missiles were unconditionally removed. Viewed in this light, Kennedy's choice of avoiding a diplomatic solution

(e.g., trading Cuban missiles for Jupiters in Turkey) in favor of an essentially unconditional ultimatum must have seemed reasonable to him, despite his estimate that his course of action entailed a probability "between one out of three and even" of nuclear war.[27] It would be worth taking such horrendous risks if the diplomatic or do-nothing options entailed even greater long-run risks of war. In sum, Kennedy's "war now/war later" formulation of the problem permitted him to deny the trade-off relationship which seemingly existed between the values of war avoidance and prestige maintenance. In fact, it permitted him to view the values as mutually reinforcing: standing firm in Cuba would demonstrate America's resolve and, hence, reduce the long-run likelihood of war.

Clearly, Kennedy's formulation of the problem is not prohibited by the rational model simply because it corresponds closely to the formulation predicted by the cognitive model. It is Kennedy's imputation of certainty to a highly uncertain situation which most strongly suggests the operation of the cognitive model, not the "no trade-off" character of his formulation per se. Kennedy's decision environment was highly "underdetermined." Many and diverse interpretations could and have been given to Soviet motivations -- and to their future intentions, had the missile gambit been successful. Some of these interpretations would have hardly justified a one-in-three risk of nuclear war as the price of removing the missiles -- especially when their removal could have been secured with less risk (albeit at a somewhat higher price) diplomatically. The rational paradigm offers no guidance regarding how such vast uncertainties can be resolved. The cognitive paradigm, however, explains unambiguously, in terms of cognitive principles and pressures, why Kennedy and the ExCom decided as they did.

THE SUBJECTIVE STRUCTURING OF THE DECISION ENVIRONMENT

In order to support the cognitive view of Kennedy's decision process, it will be necessary to look more closely at the seeming trade-off which Kennedy faced and his manner of dealing with it.

To repeat, the two values involved in the missile crisis were (1) a web of interests including the preservation of the military status quo ante,

the maintenance of America's international prestige, and the need to demonstrate to the Soviets that destabilizing faits accomplis and "salami tactics" would not be tolerated -- with all of these interests requiring an unconditional withdrawal of the missiles from Cuba -- and (2) the avoidance of a nuclear war, which might be precipitated by measures designed to achieve an unconditional withdrawal.

Setting aside the issue of whether this objectively constitutes a trade-off relationship, it is nevertheless undeniable that these two issues are, in Steinbruner's jargon, "highly interactive." That is, policies which affect one value must intimately affect the other. Thus, reality constraints are too strong to achieve a stable disaggregation of the values by the simplest and most routine cybernetic means -- e.g., letting one bureaucracy handle value A and another handle value B, as in the above-cited flood control example.

In such situations, the decisionmaker may be forced to deal with the values analytically, but, since in this case uncertainty is great, one might expect subconscious, nonrational, cognitive processes to structure the decision in such a way that the values do not conflict.

Intuitively, it is not hard to imagine the cognitive stress which the sacrifice of either value would have entailed for President Kennedy, especially when his own prestige was on the line as well as America's. The Bay of Pigs, the disastrous confrontation with Khrushchev in Vienna, and the domestic allegation that he was long on profile but short on courage all combined to make the unconditional withdrawal of the missiles a dear value indeed, perhaps tantamount to the avoidance of nuclear war itself.

With two such vital values at stake, it is not hard to imagine that Kennedy was under strong cognitive pressure to view his situation in a way which would permit him to adopt a strategy which held out the possibility of winning big with respect to both values -- even if it meant running the risk of losing big as well. An analytic, trade-off-oriented formulation of the problem could not achieve this for Kennedy; a cognitive, "no trade-off" formulation could.

"A MISSILE IS A MISSILE"

Conceptually, there were two possible ways to avoid the trade-off. The first, and the simplest, would have been to disclaim the significance of the introduction of the missiles into Cuba. By telling themselves that the missiles did not, in any appreciable way, affect the military balance or undermine U.S. prestige, the members of the ExCom could have acquiesced to the installation of the missiles and incurred no cognitive costs. Both values -- prestige maintenance and war avoidance -- could have been viewed as essentially irrelevant to the missile issue.

In fact, at the beginning of the ExCom's deliberations, Secretary of Defense McNamara argued for exactly this view: "A missile is a missile. It makes no great difference whether you are killed by a missile fired from the Soviet Union or from Cuba."[28] Ted Sorensen reports:

> As some (but not all) Pentagon advisers pointed out to the President, we had long lived within range of Soviet missiles, we expected Khrushchev to live with our missiles nearby, and by taking this addition calmly we would prevent him from inflating its importance.[29]

Objective arguments on this point were mixed. McNamara's view was bolstered by the fact that the vulnerable, soft-site missiles could be useful only in a first strike -- and that the Soviets were far from a credible first-strike capability even with the additional deliverable warheads provided by the Cuban emplacements.[30] Meanwhile, the armed services pointed to the reduced warning time for getting American bombers off the ground,[31] and the diplomats and politicians stressed the importance of "appearances," independent of strictly military considerations.[32] In any case, uncertainty regarding the significance of the Russians' gambit was great enough to permit McNamara to rationalize his dissonance-avoiding formulation.

President Kennedy, however, rejected the "do nothing" course of action from the outset. "We'll have to do something quickly," he told the ExCom. "I suppose the alternatives are to go in by air and wipe them out, or to take other steps to render the weapons inoperable."[33] Kennedy was operating

under different cognitive pressures than those influencing McNamara. In the wake of Vienna, Berlin, and the Bay of Pigs, Kennedy was under heavy pressure from members of both parties in Congress to stand firm against Khrushchev's encroachments. Even before the revelation about the emplacement of medium- and intermediate-range missiles, Republican candidates were making Kennedy's do-nothing policy in Cuba a central issue of the election campaign. After their emplacement, Kennedy saw his impeachment as the likely consequence unless they were removed. To quote Roger Hilsman, "The United States might not be in danger, but the Administration most certainly was."[34] Whereas the formulation "a missile is a missile" may have diminished the cognitive pressures on McNamara (who was chronically insensitive to political concerns), it could only heighten Kennedy's troubles and exacerbate the trade-offs he faced.

WAR NOW VERSUS WAR LATER

The other possible means for avoiding the trade-off between war avoidance and prestige maintenance was the "risk war now to avoid certain war later" formulation. This, in fact, was the conceptualization adopted by Kennedy. In his speech of October 22 announcing the blockade, Kennedy said:

> Aggressive conduct, if allowed to grow unchecked and unchallenged, ultimately leads to war. This nation is opposed to war. We are also true to our word. Our unswerving objective, therefore, must be to prevent the use of these missiles against this or any other country and to secure their withdrawal or elimination from the Western Hemisphere.[35]

In the ExCom, Secretary of State Rusk had concluded his case for an air strike with a similar sentiment.

> If we don't do this we go down with a whimper. Maybe it's better to go down with a bang.[36]

Presidential biographers Schlesinger and Sorensen summed up Kennedy's and, generally speaking, the ExCom's attitude:

> In a general sense, the decision [to introduce missiles] obviously represented the supreme Soviet probe of American intentions. No doubt a "total victory" faction in Moscow had long been denouncing the government's "no win" policy and arguing that the Soviet Union could safely use the utmost nuclear pressure against the United States because the Americans were too rich or too soft or too liberal to fight. Now Khrushchev was prepared to give the argument its crucial test.[37]

> The Soviets would move [in Berlin], [Kennedy] expected, but they probably would whatever we did; and perhaps this show of strength would make them think twice about it.[38]

This view per se was neither necessarily wrong nor necessarily incompatible with the analytic model. However, the unswerving nature of the President's commitment to this view under conditions of great uncertainty is more reminiscent of the cognitive paradigm than the analytic.

COMPELLENCE AND CERTAINTY

Kennedy's unswerving commitment to the "war now/war later" view is directly reflected in the strategy he adopted to force the Russians to remove their missiles. That strategy was essentially a compellence strategy: a strategy based on the renunciation of choice.

Kennedy and his brother assured each other that they had no choice but to compel the Russians to dismantle the missiles unconditionally. The President told Robert:

> It looks really mean, doesn't it? But then, really there was no other choice. If they get this mean on this one in our part of the world, what will they do on the next?[39]

The President then assured the Russians that he was locked into a no-choice situation. If a blockade did not get the missiles out, an air-strike would, Kennedy told Ambassador Dobrynin via his brother.[40] I am not interested in compromise solutions, he told the Russians, in effect. I have no choice but to insist on the unconditional removal of the missiles; therefore, you have only two options: submit to my demands or provoke an escalation of the conflict. However, since I have read *The Guns of August* and am attuned to your need to avoid humiliation,[41] I

will permit you to capitulate gracefully before I unilaterally impose a military solution. But if you are really intent on pushing me, there's nothing I can do to avert escalation.

Despite Albert and Roberta Wohlstetter's protestations about controlling the risks in Cuba,[42] the fact remains that "all [the Kennedys'] skill would have been to no avail if in the end [Khrushchev] had preferred his prestige, as they preferred theirs, to the danger of a world war." Despite Sorensen's and Schlesinger's description of the ExCom's decision process as painstakingly open and rational, the fact remains that the President and most of his advisors perceived only one real option: an uncompromising policy based on compellence and rejecting any trade-off of values. Such policies are the hallmark of the cognitive decisionmaker.

THE FAILURE TO NEGOTIATE

An analytical decisionmaker, on the other hand, would have characteristically adopted a strategy based on negotiation, compromise, and explicit value trade-offs. Kennedy did have an opportunity to strike a bargain in which both the Soviets and the Americans would have given up some prestige in order to eliminate the immediate danger of war. The Soviets offered to remove their missiles from Cuba if the United States would remove its from Turkey.[43] Such a trade had already been proposed in the American press as a face-saving, war-averting compromise by Walter Lippmann. "The two bases could be dismantled without altering the world balance of power," he had argued.[44] Inside the ExCom, Adlai Stevenson also argued for the trade. As Ambassador to the United Nations, he realized that the emplacement of missiles in Turkey was in fact quite comparable to their emplacement in Cuba, and that he would find it hard to construct a tenable argument against the equity of the proposed trade.

In addition, Stevenson had hoped to link this trade to a broader settlement of some contentious issues between the two superpowers. Schlesinger reports, however, that:

> The President . . . rightly regarded any political program as premature. He wanted to concentrate on a single issue -- the

> enormity of the introduction of the missiles and the absolute necessity for their removal. Stevenson's negotiating program was accordingly rejected.[45]

Although Kennedy had previously ordered the dismantling of the missiles in Turkey (an order which had never been carried out), he perceived any compromise affecting Turkey as undermining a U.S. commitment. Still, Kennedy <u>did</u> ask Roswell Gilpatric to prepare a scenario for the removal of the missiles in Turkey and Italy.[46] On the one hand, Kennedy remained firm in his cognitively-reinforced view that the long-term likelihood of nuclear war would increase greatly if he were to appear to be giving in to Soviet pressure. On the other hand, he seems to have balked at the thought that a very marginal diminution of the American commitment to Turkey could have ramifications significant enough to warrant a one-in-three risk of nuclear war.

Despite this, Kennedy found a way to avoid the trade. As the cybernetic model would predict, he seized upon his brother's idea of rejecting the most recent and most official offer to trade Cuban for Turkish missiles and accepting instead Khrushchev's informal offer to remove the missiles simply in exchange for a pledge not to invade Cuba. Although the informal offer (1) was inferred from an ambiguous and emotional letter from Khrushchev and transferred more explicitly through a highly unorthodox, unofficial contact[47] and (2) had apparently been superseded in the Kremlin by the more recent and more stringent offer, Kennedy chose to "accept" the Khrushchev "offer." He then locked himself into that policy by informing Dobrynin that an airstrike would soon follow if his "acceptance" were not agreed to by the Politburo.

Although Robert Kennedy <u>privately</u> assured Dobrynin that in the long run "there would be no problem about the missiles" in Turkey,[48] that was hardly the point. It was prestige and appearances that mattered, not the out-moded Jupiter missiles. Thus, President Kennedy had violated his own cardinal rule of crisis management:

> Above all, while defending our own vital interests, nuclear powers must avert those confrontations which bring an adversary

to the choice of either a humiliating retreat or a nuclear war.[49]

In sum, Kennedy's failure to negotiate, his adoption of the so-called Trollope ploy of accepting a non-offer, his desire to "concentrate on a single issue," and, in general, his insistence on a compellence strategy in which only the adversary must deal with trade-offs are all indicators of a nonanalytic cognitive decision process.

By the time that Kennedy announced the blockade, his perception of the situation and his analysis of the options were firmly established. In his mind, he had structured his environment in a way which subjectively disposed of dissonance-causing trade-offs. As predicted by the cognitive paradigm, he had seen certainty in an inherently uncertain situation; he was confident that his chosen policy was not merely the right one but the only one he could possibly adopt under the circumstances.

On the day he announced the blockade, according to Schlesinger's report, "Kennedy himself was never more composed."[50]

It is fortunate that the Soviet decision process was not ruled by the same cognitive pressures as Kennedy's decision. Because of Khrushchev's apparent willingness to opt for peace rather than prestige, an unwanted war was avoided.[51]

However, decisionmakers who use compellence strategies cannot always count on their adversaries to weigh the costs and benefits "correctly" and to opt for peace. The next case to be examined illustrates the tragic outcome which can result when cognitive pressures lead both sides to view their dispute as a "no trade-offs" game and to adopt strategies based on compellence.

IV. UNCERTAINTY, VALUE INTEGRATION, AND THE ORIGINS OF WORLD WAR I

The theme of war-by-error has had great popularity among historians as an explanation for the immediate causes of the First World War. The role of personality, the domination of policy by military technology and doctrine, and the effects of stress have all been cited as elements which constrained the rationality of the participants' decision processes. Although these may all be important, this analysis will concentrate on nonrational influences relating to the suppression of trade-offs and the subjective resolution of uncertainty. It will be argued that these cognitive influences led the German decisionmakers to perceive that all of their options -- except the option to make war -- were foreclosed.

THE TRADE-OFF

The assassination of Archduke Ferdinand and Austria's ensuing demands on Serbia created a difficult and momentous dilemma for Kaiser Wilhelm and the German policymakers. On the one hand, the Germans were convinced of the need to support Austria unconditionally in the dispute.

> We are concerned with a preeminent political question, perhaps the last opportunity of giving the Greater-Serbia menace its death blow under comparatively favorable circumstances. If Austria neglects this opportunity, her prestige will have come to an end, and she will constitute a still weaker factor of our association. As any other orientation of our policy seems for the time being to be excluded, it is for us a matter of vital interest to uphold our Austrian ally's status in the world.[52]

On the other hand, any German policy which would further the dual goal of supporting Austrian prestige and the influence of the Triple Alliance would also tend to provoke an unwanted war with Russia, Serbia's benefactor.

It seems clear that the war was generally unwanted by German policymakers, including the Kaiser. Although some military men were enamored of a social Darwinist theory of "the obligation to make war," official

German policy papers of the time regularly refer to a general European war as undesirable, a "terrible calamity" which would "annihilate for decades the civilization of Europe."[53] As Barbara Tuchman points out, the Kaiser was convinced of the need for an active diplomacy entailing the occasional use of threats, but not of the need for war.[54]

Thus, Germany was faced with a straightforward policy dilemma: the need to support the prestige of a weak ally without precipitating a world war. As Ole Holsti has observed, the trade-off problem facing Russia was essentially identical to that facing the Germans.[55]

MANAGING THE TRADE-OFF

How did the Kaiser and his advisers deal with this trade-off in an environment of uncertainty? The question can be answered by focusing on two points in the decision process: (1) the Kaiser's decision on July 5 to write Austria a "blank check" for German support in her policies toward Serbia and (2) the Kaiser's reaction to Russian mobilization and the perceived "betrayal" by Britain.

In the initial stages of the crisis, the German leadership avoided the trade-off by imputing impossibility to a war-like Russian reaction to Austria's Serbian policy. This perception was maintained through July by selective attention to information and by the well-established cognitive principle of reinforcement, which states that small reinforcing inputs will generally outweigh larger disconfirming inputs.[56]

However, this sanguine view was inevitably broken down by the onslaught of reality towards the end of July. A new conceptualization of the situation was clearly required. The evidence indicates some manifestations of a trade-off-oriented conceptualization of the problem among some of the German leaders, but, for the most part, the Kaiser and his advisers took refuge in a formulation which avoided the dissonance of recognizing the trade-off of values. The Kaiser came to view his situation as a choice between war now or destruction later at the hands of the plotting, encircling Triple Entente. Compromise with the adversary would further undermine German strength and only postpone the war to a less

favorable moment, he believed. The Kaiser saw no choice but to seize the advantage of striking the first blow. By imputing certainty to the adversaries' conspiratorial intent, the Kaiser avoided the value trade-off. Unlike Kennedy, he did not avoid the war.

Robert North characterizes the German decision process in a similar fashion:

> Previously the Kaiser and his colleagues had persistently misperceived British, French, and Russian attitudes and interests. [Upon learning of the British "betrayal",] they swung to the other extremes: exaggerating the British, French, and Russian hostilities and grossly overreacting. In the consequent high tension, moreover, they were unable to see any alternatives to large-scale war.[57]

Of course, the Kaiser's shifting view of his adversaries' intentions is not inconsistent per se with the rational model of decisionmaking. However, such a pattern is more readily explained by the cognitive model than by the rational-analytic model. Psychologist Jack Brehm argues:

> The point here is that dissonance processes have the flavor of an either-or phenomenon; judgmental processes, on the other hand, admit of compromise all along the information continuum. Dissonance implies a distortion or discontinuity to the commitment; the person may go too far and may overestimate change from one extreme position to another, end up advocating what he has disliked, and so forth. The judgmental process, unlike the dissonance process, implies a more "rational" assessment of different pieces of inconsistent information in terms of existing conditions, and a resultant compromise solution.
>
> The usual attitude change paradigm in many cases allows an interpretation of data in terms of judgmental processes. An interpretation in terms of dissonance theory, is, in this light, equivocal, unless certain special dissonance-reduction effects are shown. Thus studies in this area are equivocal, not because they do not involve discrepant cognitions but because they often do not present any effects that are not amenable to reinterpretation by means of judgmental assumptions.[58]

The following review of the evidence will suggest that a judgmental (i.e., rational-analytic) interpretation of the Kaiser's decision process

verges on implausibility, especially in light of the Kaiser's strong imputations of certainty to inherently ambiguous intentions and events. This is true both in the early stages of the crisis, when the Kaiser was writing his blank check, and in the later stages, in his reaction to the Russian mobilization and the English "betrayal."

RUSSIA IS "DETERMINED TO HAVE PEACE"

During the summer of 1914, the Germans were convinced that Russia did not want war and recognized that she was not prepared for it. They pointed to the inadequacy of Russia's artillery and railroads. They argued that the Tsar would never side with the Serbian regicides, regardless of Slavic loyalties.[59] They pointed out that, in a similar case in 1909, Russia had not prevented Austria's annexation of Bosnia-Herzegovina -- although the Germans tended to forget that Russian neutrality in that affair had been secured as much by a German promise of support on the Dardanelles issue (later reneged) as by the German ultimatum.[60] In sum, the Germans were convinced that Russia was "determined to have peace for a few years yet."[61]

In any case, Britain -- and perhaps even France -- would restrain Russia, it was believed. In his memoirs, Admiral Tirpitz recalls that the Kaiser thought that France "would put the brake on Russia, because of France's unfavorable financial position and her shortage of artillery. The Emperor did not mention England; there was no thought of complications with this state."[62] Chancellor Bethmann-Hollweg wrote of the prospects that England and Germany would "both stand forth with determination as the guarantors of European peace."[63] Even "if it came to war, England would certainly remain neutral," Bethmann argued.[64] In a similar vein, Foreign Minister von Jagow argued that England could never go to war in light of its divided cabinet and its unresolved Irish question. "We are sure of England's neutrality," he told the French Ambassador.[65]

Jagow's July 18 cable to Prince Lichnowsky, the German Ambassador to London, sums up the German attitude:

> The more determined Austria shows herself, the more energetically we support her, the more quiet Russia will

> remain. To be sure, there will be some agitation in Petersburg, but, on the whole, Russia is not ready to strike at present. Nor will France or England be anxious for war at the present time.[66]

These assessments by Jagow, Bethmann, and the Kaiser are striking for their tone of virtual certainty -- perhaps too striking to be compatible with a probabilistic, rational-analytic decision process. In any case, this optimistic estimate of the potential adversaries' intentions provided a convenient basis for denying the trade-off between helping Austria to punish the regicides, which the Kaiser viewed as a "requirement for self-preservation,"[67] and avoiding an all-European war. In fact, the Kaiser had become so confident about the unlikelihood of provoking war that he had felt free to rebuke his ambassador in Vienna for urging caution on the Austrians.[68]

REINFORCING THE PERCEPTION

While the events of July moved Europe closer to war, the German leadership maintained their preestablished estimate of their adversaries' unwillingness to fight, rejecting disconfirming evidence and interpreting ambiguous evidence as supporting that belief. As predicted by cognitive theory, reinforcing evidence seems to have been given inordinate weight. Ole Holsti remarks:

> Kaiser Wilhelm tended to dismiss the consistently accurate reports of his ambassador in London regarding British intentions as more utter nonsense from "that old goat." On the other hand, the reports of the German ambassador in St. Petersburg, which support the preferred view that Russia was bluffing in its announced policy of supporting Serbia, were accepted quite uncritically. Thus two unauthoritative articles which supported the Kaiser's hopes and expectations that Britain would remain neutral were accepted quite uncritically, whereas [British Foreign Secretary] Grey's warnings as reported accurately by Lichnowsky, were dismissed.[69]

Even in the advanced stages of the crisis this tendency remained an important factor. As late as July 27, upon reading Ambassador Pourtales'

estimate that the Russians would not fight, Bethmann decided to forward Grey's arbitration proposal to Vienna with the recommendation that it be rejected. The Russians would become reconciled to a fait accompli in Serbia, he believed.[70]

Eventually, however, the reality of the imminent Russian mobilization prohibited such fatuous interpretations. The Germans had to fall back on the increasingly implausible hope that Britain would intercede and check the Russian mobilization; for example, the Kaiser's marginalia on a pro-peace British newspaper article of July 30:

> The ONLY POSSIBLE WAY to ensure or enforce peace is that England must tell Paris and Petersburg -- its Allies -- to remain quiet, i.e., neutral to the Austro-Serbian conflict, then Germany can remain quiet too.
>
> Now only England alone can stop the catastrophe by restraining its Allies.[71]

VOICES FOR COMPROMISE?

By July 29 the trade-off between backing the Austrians and avoiding war had become all too apparent to Bethmann. He decided to send a proposal for compromise authored by Lichnowsky to the Austrian chancellor via the German ambassador in Vienna, urging its consideration:

> We are, of course, prepared to fulfill our duty as allies, but must decline to be dragged by Vienna wantonly into a world conflagration without having any regard paid to our counsels, Pray speak to Austrian Chancellor Berchtold at once with great emphasis.[72]

The Kaiser, too, showed an erratic sort of interest in "compromise" as a means to avert first a Russian mobilization and then war with France. Only July 28, the Kaiser urged a peace initiative on the Austrians, which would have entailed the temporary occupation of Belgrade.[73] Historian George Thomson views this as a legitimate effort at compromise, similar in substance to some of Grey's proposals, but scuttled by subordinates

and too late to influence events.[74] However, some of the Kaiser's peremptory marginal comments regarding a Russian arbitration proposal received on July 28 suggest that his interest in a true compromise was minimal.[75]

The Kaiser's other peace initiative was even less serious. In mid-invasion on August 1, he offered the French the option of remaining neutral in his war with Russia if they would relinquish the fortifications at Verdun and Toulon to the Germans as a guarantee of France's benign intentions.[76]

Despite these flirtations with a policy of compromise and with the recognition of the disturbing trade-off, they remained a minor component of the overall pattern of events -- a passing symptom of the Germans' search for a new conceptualization of their environment to replace their suddenly exploded faith in Anglo-Russian passivity.

WAR NOW OR DESTRUCTION LATER

When and how, then, did the Kaiser reconceptualize his view of his adversaries' intentions and the nature of his own dilemma?

This reformulation was precipitated in part by the Russian mobilization but also largely by Grey's clarification of England's intentions in the event of war between Germany and France. As Grey's increasingly unambiguous warnings reached the Kaiser on July 29, 30, and 31,[77] it became more and more evident that the illusion of British neutrality could not be maintained. Earlier, King George of England had assured Wilhelm of England's intention to remain neutral via the Kaiser's brother Henry, and Wilhelm had been impressed by "the word of a king." But now King George revoked what Wilhelm viewed as a pledge, explaining that Prince Henry had misunderstood him: Britain would remain neutral only if Germany would remain neutral towards both Russia and France.[78]

The reality of this new information crushed once and for all the Kaiser's remaining illusions and seemingly laid bare the trade-off between supporting Austria's irresponsible policies and avoiding a general war. Clearly, the Kaiser was forced to reconceptualize his predicament. However, this reconceptualization did <u>not</u> take the form of (1) recognizing the

conflict between values and (2) seeking a diplomatic compromise which would save the peace and salvage as much of Austria's prestige as possible. Instead the Kaiser adopted the view that the Triple Entente was conspiring for his destruction: they would try to weaken him and his Austrian ally by forcing them to compromise their essential interests. Then, in this debilitated state, Germany and Austria would eventually be devoured. Or, if Germany would not permit the gradual erosion of its position, the Entente would join in a war to liquidate it. For example, these excerpts from the Kaiser's marginalia of July 30:

> For I have no doubt about it: England, Russia, and France have agreed among themselves -- after laying the foundations for the casus foederis for us through Austria -- to take the Austria-Serbian conflict for an excuse for waging a war of extermination against us.[79]
>
> . . . either we are shamefully to betray our allies, sacrifice them to Russia -- thereby breaking up the Triple Alliance, or we are to be attacked in common by the Triple Entente for our fidelity to our allies and punished, whereby they will satisfy their jealousy by joining in totally ruining us.[80]

He explicitly rejects mediation and compromise as a ploy of an enemy who is already "almost a week ahead of us" in its mobilization:

> It cannot agree to any more mediation since the Czar who requested it has at the same time secretly mobilized behind my back. It is only a maneuver, in order to hold us back and to increase the start they have already got. My work is at an end.[81]

In sum, the Kaiser adopted the view that mediation would lead to war as surely as -- or even more surely than -- an uncompromising policy would. This view permitted him to avoid making painful trade-offs between values. It also led him to the view that he had no choice but to lock himself into an inflexible policy of compellence and that the responsibility for averting war lay only in the hands of his adversaries.

NO CHOICE

As a result of the Kaiser's view that the designs of encircling, hostile powers would only be encouraged, not assuaged, by appeasement, the Kaiser perceived his situation as one of "no choice." In his view, only Russia and Britain could avert war; he was powerless, his actions wholly determined by the actions of other players.

For example, although the Kaiser saw his own hands as tied with respect to his ally Austria,[82] he expected England to check its ally Russia:

> He [Grey] knows perfectly well, that if he were to say one serious sharp and warning word at Paris and Petersburg, and were to warn them to remain neutral, both would become quiet at once. But he takes care not to speak the word, and threatens us instead!. . . England alone bears the responsibility for peace and war, and not we any longer.[83]

His telegrams to the Tsar reflect a similar sentiment:

> If . . . Russia mobilizes against Austria, my role as mediator . . . will be endangered if not ruined. The whole weight of the decision lies solely on your shoulders now, who have to bear the responsibility for peace or war.[84]
>
> The responsibility for the disaster which is now threatening the whole civilized world will not be laid at my door. In this moment it still lies in your power to avert it.[85]

But when the Russians informed the German ambassador that they were in a position of no choice -- i.e., that their mobilization could "no longer possibly be retracted" unless Austria demobilized -- the Kaiser underlined the passage three times and stated in the margin that this was untrue.[86]

Ole Holsti has pointed out that this perception of "no choice" produced a policy highly reminiscent of Thomas Schelling's compellence strategy.[87] Certainly the Kaiser had relinquished the initiative (at least the initiative for compromise) and was hoping that the Tsar and/or Grey would recognize the incentives for them to back down. But, unlike Schelling's hypothetical decisionmaker, the Kaiser had not manipulated his environment in order to place himself in a position of no choice by

rational design. Instead, according to the cognitive argument, his subconscious cognitive processes structured his position as one of "no choice," because such a structure was the one most likely to relieve his cognitive pressures for trade-off avoidance. Although the Kaiser's policy represented a de facto compellence strategy, it was most certainly not designed as a stratagem to gain the Tsar's compliance, nor was there much hope in Berlin that it would function successfully as such.[88] Its true nature was more along the lines of a limbo period between the fatuous confidence of mid-July and the preemptive strike of early August.

DOUBLE COMPELLENCE IN A FIRST-STRIKE WORLD

In concluding this analysis of the cognitive roots of Europe's unwanted war, two differences should be noted between the dynamics of the Cuban missile crisis and those of July and August, 1914.

(1) Unlike the Cuba confrontation, the face-off between Germany and Russia found both adversaries locked into no-choice, compellence-type policies. In terms nearly identical to those used by Kaiser Wilhelm, Tsar Nicholas presents his position in cables to his cousin as wholly determined by outside forces:

> I foresee that very soon I shall be overwhelmed by the pressure brought upon me, and be forced to take extreme measures which will lead to war. To try to avoid such a calamity as a European war, I beg you.. . . to do what you can to stop your allies from going too far.[89]

The German ambassador in St. Petersburg reported this interchange with the Russian foreign minister:

> At our interview tonight Sazonoff kept coming back to the fact that we were the only ones who could now check Austria.[90]

(2) Whereas the Cuban crisis occurred in a world where "mutual assured destruction" tended to limit the advantages of "mobilizing" first, the Kaiser confronted his adversaries in a first-strike world. According

to the doctrine of the day, the realities of warfare in the railroad era put a premium on rapid mobilization and gave strong incentives against being slow to respond to an opponent's preparation for war.

This situation, in which both players employed compellence strategies in a first-strike world, proved to be a deadly combination.

V. COGNITIVE PROCESSES AND THE FAILURE OF DETERRENCE

Most scenarios suggest that World War III is likely to ensue from a two-value game between the superpowers. The case studies discussed in this analysis have illustrated the tendency of human decisionmakers to deal with such situations by avoiding the recognition of the trade-off relationship which exists between each player's own values. According to experimentally supported cognitive theories, this is done in order to reduce "cognitive dissonance" and to reestablish cognitive consistency.

According to the case studies of American and German decisionmaking, how is this likely to be accomplished?

The simplest method consists of the view that there is no contradiction between values because one of them is not really threatened. The German leadership employed this method of trade-off avoidance when they argued that Austria could be given a blank check because Russia did not want war and Britain would remain neutral.

However, sometimes reality constraints (e.g., the Russian mobilization and the clarification of British intent at the end of July) or political constraints (e.g., Republican and Congressional attitudes during the Cuban crisis) can preclude this direct means of trade-off avoidance. When this view is ruled out, the decisionmaker will tend to avoid facing the trade-off between war avoidance and, say, prestige maintenance by conceptualizing his dilemma according to a "risk war now or incur destruction later" formula. In this way, the decisionmaker allows himself to argue that only by running some risk of war now over the immediate issue of contention can he demonstrate resolve to his adversaries and, thus, avoid an inevitable war in the future. This formulation makes the two values consonant and extricates the decisionmaker from the dissonance-producing trade-off. However, as the July 1914 case suggests, this formulation is also likely to produce war.

Strategists have recognized that the "better war now than war later" concept presents real problems for the theory of deterrence, even aside from the lessons of cognitive theory.

> The level of destruction that would attend a nuclear war becomes less relevant if the critical choices should be made through reference to relative, rather than absolute, costs (better World War III now than later).
>
> . . . there will be many opportunities for statesmen to conclude -- accurately or inaccurately -- that . . . the intentions of their opponent make the costs of war unavoidable.[91]

If conventional views of nuclear strategy and crisis management, based largely on the rational-analytic paradigm, see this as a challenge to the logic of deterrence, the lessons of cognitive theory must underscore and redouble this concern. Whereas conventional strategists see the "better war now than war later" formulation as a possible result of objective calculations of interest, the cognitive model suggests that decisionmakers are even more likely to fall back on such a formulation than objective calculations would warrant, since that formula solves one of the prevalent, subconscious problems of decisionmakers under uncertainty.

Not only will the cognitive decisionmaker tend to seek out this formula, but he will tend to lock himself into this conception of his environment and the adversaries' intentions. Cognitive theory argues that the mind craves certainty and will work to establish it even when it is unwarranted by objective conditions. This is accomplished by the selective processing and recall of information, in accordance with the principles of reinforcement and cognitive consistency.

As a result, the decisionmaker is likely to become locked into a strategy based on compellence. As the case studies have shown, it is a short step from the formulation "better risk war now than face the certainty of incurring it later" to a strategy based on closed options and no choice. Holsti has pointed out that "when [cognitive?] stress increases, problem solving tends to become more rigid," because the ability to "resist the pull of closure" is reduced.[92] In addition, the case studies suggest that the cognitive decisionmaker is highly unlikely to adopt a policy based on negotiation. Negotiation entails compromise and represents the quintessence of explicit recognition of value trade-offs. This entails cognitive costs and will be avoided by the decisionmaker under uncertainty if at all possible.

As World War I shows, compellence is a most dangerous game when both players are locked into that strategy by their trade-off-avoiding conceptualizations. Steinbruner remarks:

> Consider, for example, the game of Chicken, long a favorite of theorists of bargaining as a simple model of political conflict. In one of its more dramatic forms, the game consists of two players each of whom drives directly at the other at 60 mph down the center of a deserted highway with an audience of peers looking on. The first player to swerve to avoid collision loses, is labeled a chicken, and suffers the contempt of his peers. The game poses a classic value trade-off problem -- survival on the one hand, preservation of honor on the other. Thomas Schelling has provided an analysis of the game under the assumption that both players are analytic decisionmakers. The first player to establish clearly an irreversible commitment to the center of the road (such as by tying the wheel and climbing in the back seat) will win the game. The other player, still retaining control, faces a certainty of death as against a finite loss of honor, and everyone knows how an analytic actor will resolve that choice. The scenario, which Schelling labels "compellence," is played out daily, usually for lesser stakes, on street intersections throughout the nation.
>
> One's sense of this game changes drastically if a cognitive decisionmaker is inserted into the scenario. There are at least two good reasons why such a decisionmaker might not yield to a cleverly established commitment by the opposing player: first, while focusing on other things, he may not notice the commitment; second, he may simply fail to engage in a value trade-off while carrying out his prior intention. Rather than compellence, with such a player involved, one readily imagines disaster. Viewed from the assumptions of the cognitive paradigm, moreover, it is not a disaster which emerges from an error in calculation, but rather it is the consequence of the normally functioning decision process.[93]

In sum, the analysis of these two case studies in light of cognitive theory has reemphasized the dangers of a compellence strategy. It should also make us more circumspect about the tendency to regard deterrence as a *deus ex machina* for avoiding nuclear war.

This analysis has tried to suggest that, in situations structured along the lines of a probable nuclear confrontation, there are "regularities of human thought" which tend to lead decisionmakers away from seeing

the trade-offs which must be seen if deterrence is to work. At the same time, it should not be inferred from the examples provided by American and German crisis decisionmaking that confrontations for high stakes between superpowers must inevitably result in nuclear destruction. On the contrary, there appear to be several mitigating factors:

(1) A world of mutual assured destruction may impose reality constraints on one or both players, which may lead to a stronger tendency to recognize trade-offs than in a first-strike world.

(2) In a sense, the argument that the risks in Cuba were controlled may be right: perhaps a moderate, well-thought-out compellence strategy (like the blockade) does involve fewer risks than a more hysterical approach (the willy-nilly "I can't stop" correspondence). Because the reality factor does seem to matter, a decisionmaker faced with a calm (and even semi-accommodating) ultimatum may be less able to rationalize a "war now/war later" formulation and more likely to evaluate his trade-offs analytically than if confronted with hysterical threats.

(3) Khrushchev's capitulation gives rise to the suspicion that, even at the brink, not all decisionmakers are subject to the kind of dissonance pressure which prohibits value integration. What explains this fact? It might be speculated that Kennedy's dissonance was high because both values -- war avoidance and prestige maintenance -- were extremely dear and were subjected to an extreme challenge by the Cuban confrontation. For Khrushchev the dissonance may not have been as great if he did not view Soviet prestige (and his personal prestige) as so vitally challenged by the Cuban issue. The prospects of sacrificing a lesser value for a greater one may not cause sufficient dissonance to force the subconscious to avoid the recognition of that trade-off.

From the standpoint of policy, it would be idle to warn crisis decisionmakers about dangerous cognitive tendencies toward "value disaggregation." However, insights from cognitive theory may be instructive for peacetime discussions of weapons procurement policy. In a world of perfectly invulnerable strategic forces, even a cybernetic/cognitive decisionmaker might find it difficult to rationalize a "war now/war later"

formulation of his crisis dilemma. As the World War I case shows, in a situation of perceived vulnerability to a first strike, a cybernetic/cognitive decisionmaker may be strongly inclined towards this dangerous *formulation*. Thus, while strategic stability has been recognized as important by strategists working in the rational-analytic framework, it becomes doubly important when viewed in the light of cognitive theory.

Strategic stability based on the mutual survivability of retaliatory forces has been a proclaimed goal of American strategic procurement and arms limitation policies. However, it has had to compete with other goals which often conflict with the requirements of stability. The deployment of large numbers of high accuracy MIRVs demonstrates that considerations of stability are not always at the top of the list when these competing goals are considered. Cognitive theory would seem to support the case that strategic stability should be given a higher priority in such deliberations.

FOOTNOTES

[1]This trade-off relationship is discussed in Alexander L. George, David K. Hall, and William R. Simons, *The Limits of Coercive Diplomacy: Laos-Cuba-Vietnam* (Boston: Little, Brown, 1971), pp. 232-238.

[2]From Schelling's article in K. Archibald, *Strategic Interaction and Conflict* (Berkeley, 1966), p. 150, as quoted in Graham Allison, *Essence of Decision* (Boston: Little, Brown, 1971), p. 19.

[3]Schelling, *The Strategy of Conflict* (N.Y., 1960), p. 4, as quoted in Allison, p. 13.

[4]New Haven: Yale, 1966; pp. 69ff in the 1971 edition.

[5]Schelling, *Strategy of Conflict*, p. 37; emphasis added.

[6]Bernard Brodie, *Strategy in the Missile Age* (Princeton, 1965), p. 280.

[7]Allison, op. cit.

[8]Alexander and Juliette George, *Woodrow Wilson and Colonel House* (New York: Dover Publications, 1956).

[9]John D. Steinbruner, *The Cybernetic Theory of Decision: New Dimensions of Political Analysis* (Princeton, 1974), p. 101.

[10]See Irving L. Janis, *Victims of Group Think: A Psychological Study of Foreign-Policy Decisions and Fiascoes* (Boston: Houghton Mifflin, 1972), especially pp. 236-237.

[11]Steinbruner, *Cybernetic Theory . . ..*

[12]Leon Festinger, *A Theory of Cognitive Dissonance* (Evanston: Row, Peterson, 1957), pp. 43-44, as quoted in Ole Holsti, "Crisis, Stress, and Decision-making," *International Social Science Journal*, v. 23, #1, 1971, p. 62.

[13]Steinbruner has discussed the implications of his theory for deterrence strategies in "Beyond Rational Deterrence: The Struggle for New Conceptions," *World Politics* (January 1976). His analysis in that article takes a different direction than the discussion presented here, which should not be construed as reflecting Professor Steinbruner's views on the implications of his model for deterrence theory.

[14]These principles and some of their experimental underpinnings are presented in Steinbruner, *Cybernetic Theory . . .*; Festinger; Janis; Jack W. Brehm and Arthur R. Cohen, *Explorations in Cognitive Dissonance* (New York: Wiley, 1962); and Joseph H. deRivera and James N. Rosenau, consultant, *The Psychological Dimension of Foreign Policy* (Columbus, Ohio: Merrill, 1968).

[15]Brehm, p. 71.

[16]For fuller explanation and illustration of the rational-analytic paradigm, see Steinbruner, *Cybernetic Theory . . .*, and Paul Samuelson, *Economics*.

[17]Steinbruner, *Cybernetic Theory . . .*, p. 51.

[18]Ibid., p. 55.

[19]Ibid., p. 62.

[20]Ibid., p. 73.

[21]Ibid., p. 88.

[22]Ibid., especially pp. 103-109.

[23]Experimental evidence suggests that when the objective probability of a desirable occurrence is relatively high people tend to view that probability as approaching certainty; coversely, impossibility is often imputed to events which are only moderately unlikely. (DeRivera, p. 109.)

[24]Steinbruner, *Cybernetic Theory . . .*, p. 110. NOTE: The principal study which Steinbruner uses to illustrate his theory is the MLF (multilateral force) debate. His discussions of the Cuban crisis are limited to this discussion of Kennedy's certainty regarding his impeachment and another, p. 89, of Kennedy's certainty in his inferences about Soviet intentions and the consequences of a no-response policy.

[25]Allison, *Essence of Decision*, pp. 8-9.

[26]Ibid., p. 9.

[27]Theodore Sorensen, *Kennedy* (N.Y., 1965), p. 705, quoted in Allison, p. 1.

[28]Elie Abel, *The Missile Crisis* (N.Y.: Lippincott, 1966), p. 43.

[29]From *Kennedy*, as quoted in Robert A. Divine, *The Cuban Missile Crisis* (Chicago, Quadrangle, 1971), p. 161.

[30]See I. F. Stone, "The Continuing Debate," in Divine, p. 163, and Arnold Horelick, "The Cuban Missile Crisis: An Analysis of Soviet Calculations and Behavior," *World Politics*, April 1964.

[31]Abel, p. 52.

[32]Sorensen, Bantam edition (1966), p. 764.

[33]Abel, p. 49.

[34]Roger Hilsman, *To Move a Nation* (N.Y., 1967), p. 197, as cited in Allison, p. 194.

[35]Robert F. Kennedy, *Thirteen Days* (Signet edition, 1969), p. 135.

[36]Abel, p. 70.

[37]Arthur Schlesinger, Jr., *A Thousand Days* (1965), p. 728 in the 1967 Fawcett Crest edition.

[38]Sorensen, p. 783.

[39]Robert F. Kennedy, p. 67.

[40]Abel, p. 199.

[41]Robert F. Kennedy, p. 127.

[42]"Controlling the Risks in Cuba," in *The Use of Force*, Robert J. Art and Kenneth N. Waltz, eds., (Little, Brown, 1971), p. 234. The following quotation appears in I. F. Stone, in Divine, p. 164.

[43]In addition each side would have agreed not to violate the sovereignty of the other's client. It should be noted that the final agreement did entail one element of "compromise." The United States agreed to forswear an invasion of Cuba as a condition for the missiles' removal. This was not much of a concession. Kennedy certainly lost no prestige by agreeing to this stipulation. Despite it, he had to warn his subordinates not to be excessively gleeful in public print about the settlement.

[44]Stone in Divine, p. 221.

[45]Schlesinger, p. 741, emphasis added.

[46]Stone in Divine, p. 222.

[47]Abel, pp. 175-177.

[48]Stone in Divine, p. 222.

[49]Speech at American University, June 10, 1963, quoted in Abel, p. 91.

[50]Schlesinger, p. 742.

[51]This does not necessarily indicate that Khrushchev's decision was analytical in the sense of weighing trade-offs, making indifference calculations, etc. It might mean that the cognitive pressures on Khrushchev and his colleagues were structured much differently than those on Kennedy. Only detailed information on the Soviets' decision process, which is currently unavailable, could resolve this question.

[52]Max Montgelas and Walther Schucking, eds., *Outbreak of the World War: German Documents Collected by Karl Kautsky* (N.Y.: Oxford, 1924), hereafter "*Kautsky*"; a cable from Foreign Minister Jagow to Prince Lichnowsky, ambassador to Great Britain, July 15, 1914, p. 111.

[53]*Kautsky*, p. 107.

[54]Barbara Tuchman, *The Guns of August* (1962), p. 21 in the 1971 Dell edition.

[55]Ole R. Holsti, "The 1914 Case," *American Political Science Review*, Vol. 54, #2, June 1965, p. 371.

[56]Steinbruner, *Cybernetic Theory* . . ., pp. 113-114.

[57]Robert C. North, "Perception and Action in the 1914 Crisis," *Journal of International Affairs*, Vol. 21, #1, 1967, p. 115; also quoted in deRivera, p. 154.

[58]Brehm, p. 106.

[59]George Malcolm Thomson, *The Twelve Days: 24 July to 4 August 1914* (London: Hutchinson, 1964), p. 44.

[60]Tuchman, p. 91; Thomson, p. 32.

[61]Jagow to Lichnowsky, *Kautsky*, p. 132.

[62]From Tirpitz, *My Memoirs* (London, 1919), pp. 241-242, as quoted in North, p. 109.

[63]To Lichnowsky, *Kautsky*, p. 55.

[64]North, p. 109.

[65]Thomson, p. 90.

[66]Jagow to Lichnowsky, *Kautsky*, p. 132.

[67]*Kautsky*, p. 90.

[68]Thomson, p. 44.

[69]Ole Holsti, *Crisis Escalation War* (Montreal: McGill, 1972), p. 116.

[70]Thomson, p. 101.

[71]*Kautsky*, p. 351.

[72]Thomson, p. 124.

[73]*Kautsky*, p. 273.

[74]Thomson, p. 104.

[75]*Kautsky*, p. 298.

[76]Thomson, p. 154.

[77]Thomson, p. 114; *Kautsky*, p. 408 and p. 321.

[78]Thomson, pp. 106, 114, 161.

[79]*Kautsky*, p. 349.

[80]*Kautsky*, p. 350.

[81]*Kautsky*, p. 342.

[82]Holsti, "The 1914 Case."

[83]*Kautsky*, p. 321.

[84]*Kautsky*, p. 360.

[85]July 31, *Kautsky*, p. 399.

[86]July 30, *Kautsky*, p. 349.

[87]Holsti, "The 1914 Case," p. 372.

[88]Bethmann's July 31 telegram, *Kautsky*, p. 395.

[89]*Kautsky*, p. 295.

[90]*Kautsky*, p. 356.

[91]Warner R. Schilling, "Technology and International Relations," *The International Encyclopedia of the Social Sciences* (MacMillan and the Free Press, 1968), p. 593.

[92]Holsti, "Crisis, Stress, and Decision-making," pp. 61-62, citing Sheldon J. Korchin and Seymour Levine, "Anxiety and Verbal Learning," *Journal of Abnormal and Social Psychology*, LIV, 57, p. 238.

[93]Steinbruner, *Cybernetic Theory . . .*, p. 147.